

REMARKS/ARGUMENTS

In the Office Action dated March 10, 2004, Claims 1-4 are pending. Claims 1 and 4 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 1 and 10 of copending Application No. 10/612,670. Claims 1, 2, and 4 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 1 and 10 of copending Application No. 10/319,109. In addition, Claims 1-4 are rejected under 35 U.S.C. § 102(a) as being anticipated by U.S. Patent No. 6,334,571 to Shantz, et al. Claims 1, 2, and 4 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,087,038 to Yagi. Claims 1-4 are rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,386,428 to Claxton.

Applicant respectfully traverses each of the rejections. First, with regard to the provisional rejections under the judicially created doctrine of obviousness-type double patenting, Applicant is filing herewith a terminal disclaimer for disclaiming the terminal part of any patent granted on the above-identified application which would extend beyond the expiration date of the full statutory term of any patent that may be issued to copending Application No. 10/319,109.

Regarding the rejection of Claims 1 and 4 under the judicially created doctrine of obviousness-type patenting as being unpatentable over Claims 1 and 10 of copending Application No. 10/612,670, Applicant respectfully submits that such rejection is improper. Claims 1 and 4 of the present application and Claims 1 and 10 of Application No. 10/612,670 were the subject of a restriction requirement made June 26, 2003 in Application No. 10/092,675, of which the present application and Application No. 10/612,670 are both divisionals. As set forth in 35 U.S.C. § 121 a "patent issuing on an application with respect to which a requirement for restriction under this section has been made, or on an application filed as a result of such a requirement, shall not be used as a reference either in the Patent and Trademark Office or in the courts against a divisional application or against the original application or any patent issued on either of them, if the divisional application is filed before the issuance of the patent on the other application." Therefore, a patent issuing from Application No. 10/612,670 cannot properly be applied as a reference against the present application.

Turning now to the rejections made under 35 U.S.C. § 102, Applicant submits that none of the cited references teaches or describes a preform as set forth in Claim 1. In particular, Claim 1 as amended recites a preform for use in forming a machined structural assembly of predetermined dimensions, comprising first and second structural members that define contact surfaces and “a linear friction weld joint” joining the contact surfaces “such that said first and second structural members form a preform having dimensions approximating the dimensions of the machined structural assembly to thereby reduce material waste and machining time when forming the machined structural assembly.”

None of the cited references describes a linear frictional weld joint. For example, Shantz, et al. describes a method of welding cylindrical end pieces **1**, **2** with an interposed intermediate piece **3**. Shantz, et al. does not teach that the end pieces can be linear friction welded. Instead, Shantz, et al. specifically teaches that the intermediate piece is shaped so that torque can be applied thereto, by spinning or holding the piece stationary during the welding process. *See* col. 2, line 56 to col. 3, line 1. That is, a rotational friction welding process is taught, which results in a circumferential weld between the mating surfaces of the end pieces **1**, **2** and intermediate piece **3**, not a linear friction weld as claimed.

Similarly, Yagi and Claxton also teach rotational friction welding processes, which do not result in linear friction welds. For example, according to Yagi, a “rod **2** is rotated and pressed against the flange **1** with a pressure **P** to produce a frictional heat.” Col. 2, lines 35 to 37. The method described in Yagi is used to effect “a frictional weld between a rod-like member and a flange member.” Abstract. In Claxton, a first component **12** is joined to a second component by brazing, and the second component **14** is friction welded to a third component **16**, presumably using a rotational friction welding technique. For example, in one example, a shaft **44** is brazed to a connecting member **50**, and “the frustoconical surface **64** of the connecting member **50** is welded to the frustoconical surface **66** of the gear member **46** by inertia welding or friction welding.” Col. 5, lines 35 to 49. In any case, Claxton does not teach that the weld joint can be a linear friction weld joint.

Thus, none of the references describes a linear friction weld joint as now recited in Claim 1. Therefore, Claim 1 is patentable over the cited references, as is each of the dependent claims, including new Claims 5-9.

Further, the dependent claims provide additional bases of distinction over the cited references. For example, new Claim 5 recites "that at least one of said first and second structural members comprises a material selected from the group consisting of titanium and titanium alloys." None of the cited references describes a weld joint joining a contact surface of a titanium member. The Examiner has asserted in connection with the other claims that the members of Claxton comprise dissimilar materials including titanium and steel, citing col. 3, lines 36 to 59. However, Applicant notes that the cited portion of Claxton states that "the first component 12 may be fabricated from a titanium alloy." Col. 3, lines 35 to 39. "The third component 16 is fabricated from a second metal selected to provide a different desired characteristic, for example, the component 16 may be fabricated from a steel alloy." Col. 3, lines 39 to 44. The "second component 14 is provided as a connecting member between the first component 12 and the third component 16. The second component 14 is fabricated from a material that can be joined to the weld-incompatible metals of the first component 12 and the third component 16. In the present example, the second component 14 can be fabricated from a low-carbon mild steel or low-carbon alloy steel." Col. 3, lines 50 to 57. Thus, the only component formed of titanium is the first component 12, which is brazed to the second component, not friction welded. See col. 3, lines 60 to 65. Thus, Claim 5 is patentable over the cited references, as are Claims 6 and 7, which are dependent on Claim 5.

For the foregoing reasons, Applicant submits that Claims 1-9 are allowable.

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CONCLUSIONS

In view of the remarks presented above, Applicant submits that the present application is in condition for allowance. As such, the issuance of a Notice of Allowance is therefore respectfully requested. In order to expedite the examination of the present application, the



Examiner is encouraged to contact Applicant's undersigned attorney in order to resolve any remaining issues.

It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,

A handwritten signature in black ink that reads "Nich Gallo".

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I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on July 6, 2004

A handwritten signature in black ink that reads "Lorna Morehead".
Lorna Morehead